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Lotus Notes Internet Cookbook for Notes Release 3



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1.0 INFORMATION ABOUT THIS DOCUMENT

If you are trying to figure out how to utilize the Internet from Notes, read on!

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FTP location: [ftp.iris.com/pub/faq/notesfaq.txt](ftp://iris.com/pub/faq/notesfaq.txt)
[ftp.iris.com/pub/faq/notesfaq.nsf](ftp://iris.com/pub/faq/notesfaq.nsf)

This document was written by Barbara Mathers (bmathers@iris.com) and Dave Newbold (dnewbold@iris.com), with contributions by many others (please see the Credits section at the end.) We wrote this to help you take advantage of the Internet and the many great things we have discovered there. This is a casual, how-to document on connecting to Internet resources, not the definitive guide to Lotus Notes. We try to maintain accuracy of this information as best we can, but don't guarantee either the completeness or accuracy. We especially welcome your corrections and comments. Please send all comments to cookbook@iris.com.

The latest version of this document is available in text and Notes format on the [ftp.iris.com](ftp://iris.com) server in the /pub/faq subdirectory. We will occasionally send it to the LNOTES-L mail list and post it to the comp.groupware.lotus-notes.misc newsgroup in text form. The Notes form of the document is the preferred, rich text version. If you have a Web browser, you can link to this document from <http://www.iris.com/>.

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2.0 WHAT DOES THE INTERNET HAVE TO DO WITH NOTES?

The Internet is a world-wide network of networks that connects millions of people together in a virtual workplace. Lotus Notes also provides a way for users to share information across physical and virtual networks. Integrating the power of Notes and the extensibility of the Internet combines the best of both worlds of communication and information sharing into a virtual network that has no limits.

The Internet offers Notes users an inexpensive medium for Notes replication and WAN connectivity, which alleviates burdening organizational IS staff with data communications management. The Internet is also a common ground for almost all electronic mail systems and allows quick exchange of electronic mail to virtually all business partners. In addition, the Internet provides connectivity to a huge array of free and fee-based resources that can be accessed from within Notes today.

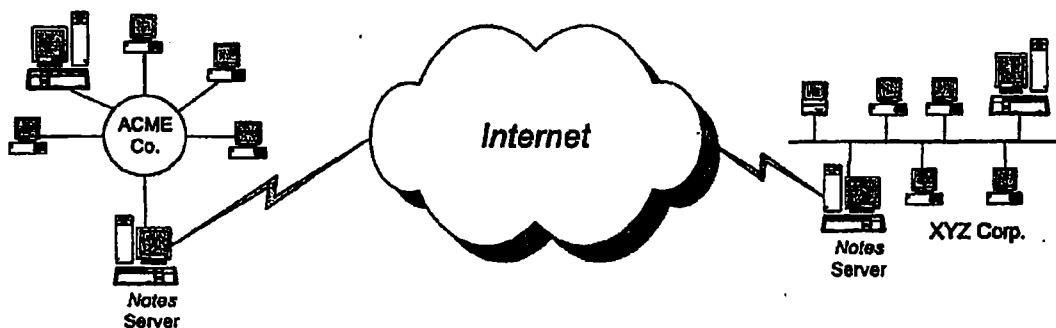
2.1 How can the Internet save me money?

Using the Internet as a communications solution can save you and your organization money if you have many point-to-point leased lines for communications to your branch locations or you make extensive use of dial-up phone lines for transferring large amounts of data. Having a single connection point for each location reduces datacom management time and reduces your connection fees.

The biggest savings will be realized by large and medium-sized organizations with an experienced and capable IS department. For small organizations, employing a direct Internet connection may not be a good investment due to the high startup costs and experience required. It is usually better to consider using a Public Notes Service Provider (such as CompuServe or WorldCom) to provide the mail routing and replication services you need.

3.0 HOW CAN I USE A NOTES SERVER TO ACCESS ANOTHER NOTES SERVER ON THE INTERNET?

To access another Notes server on the Internet, you must have an Internet connection that allows routing of IP traffic directly from your Notes environment. To accomplish this, you need both a Notes server that is running TCP/IP and a direct Internet connection.



Setting up a Notes server to access another Notes server on the Internet requires these basic steps:

1. Install the correct Notes server software
2. Get an Internet connection
3. Install TCP/IP on your Notes server
4. Test your Internet connection
5. Access the Notes server

3.1 What Notes servers can I use to connect to the Internet?

You can use Notes servers on these platforms to connect to the Internet: Windows NT, OS/2, or UNIX, or Netware.

If you have a Notes server for OS/2, you need:

- * IBM OS/2 Version 2.x
- * Notes OS/2 Server Version 3.0 or higher
- * One of the following TCP/IP protocol stacks:
 - IBM TCP/IP Version 2.0 for OS/2 2.0 or higher or
 - FTP PC/TCP Version 1.3 for OS/2

If you have a Notes server for NT, you need:

- * Microsoft Windows NT Advanced Server Version 3.1 or
- * Microsoft Windows NT 3.1
- * Notes Windows NT Server Version 3.2 or higher

If you have a Notes server for UNIX, you need:

- * SunOS Version 4.1.3 running Solaris 1.1
- * Notes for UNIX Version 3.2

If you have a Notes server for Netware, you need:

- * Novell Netware 3.11, 3.12, 4.01, or 4.02
- * Notes server for Netware Version 3.x

3.2 If I have one of the necessary Notes servers, how do I get an Internet connection?

The Internet is simply a large network of networks with links to computers all over the world. For you to link your Notes server into this network, you need both a physical connection and protocol software to access one of the many Internet Service Providers. The Internet Service Provider that you use connects you to the Internet so that you can communicate with the vast numbers of other computers connected to the Internet.

To establish your physical connection to the Internet Service Provider, you need to use a direct connection that connects your LAN through a router to a leased line to an Internet Service Provider. For your protocol software, you use Notes and TCP/IP.

3.3 How do I get my Notes server to run TCP/IP?

You can install and configure TCP/IP on an existing Notes server or a new Notes server.

3.3.1 Configuring TCP/IP on an existing Notes server

If your Notes server has been set up before and is running a network protocol, you need to:

1. Install one of the supported TCP/IP drivers on the Notes server computer.
2. Stop the Notes server by typing QUIT or EXIT.
3. Start the Notes client on the Notes server and then select **Tools-Setup-Ports, Add Port**.
4. Enter the correct port name (for example, LAN1), driver (for example, TCP) and unit number (for example, 1).
5. Click the **Enable Port** checkbox to enable the port.
6. In the Public Name and Address book, edit the **Server** document for the Notes server.
7. Add the port to the configuration table in the **Server** document.
Fill in the port name that you specified in step 4 in the port column and the name of the Notes named network that this Notes server belongs to (for example, TCP) in the Notes Network column. Enter the IP address of the machine in the Net Address column. Finally, select **Enable** in the enabled column.
8. Restart the Notes server.

3.3.2 Configuring TCP/IP on a new Notes server

If you are setting up a new Notes server, you need to:

1. Install one of the supported TCP/IP drivers on the Notes server computer.
2. Install the Notes software by following the Installation Instructions provided.
3. Run the Notes client to bring you into the setup for the Notes server. Be sure to specify that you are using TCP as a network driver.
4. Start the Notes server.

3.4 How do I test my Internet connection?

After you have established your Internet connection, you should run a quick test to ensure that your connection works properly. It is best to run this test before you start to connect Notes to the Internet. The easiest way to test your connection is to find a computer that has TCP/IP and a PING utility installed on it. (A PING utility allows you to ask another computer if it is running and the protocol software can respond. Keep in mind that even if you can PING successfully to the computer, the Notes server might not be running.)

When you PING another computer, make sure you attempt to PING a computer not in your immediate domain. If you can PING successfully into another domain, you will have verified that your router is working properly. Also, make sure that you specify the name of the computer instead of the numeric address so that you can test if your Domain Name System (DNS) or hosts file is working properly. For more information about hosts files, see Section 3.6.

3.5 How do I replicate from a Notes server to another Notes server over the Internet?

Replicating to a Notes server over the Internet is done in the same way as replicating over a LAN. You need to compose a Network Connection document in the Domain's Name and Address Book specifying which computer will initiate the call for replication, the TCP/IP port on the initiating Server, and the times you want to schedule the replication.

Network Connection

From the computer:	"<your name>,"
In domain:	"<your domain>,"
To call the computer:	"<remote computer>,"
In domain:	"<remote domain>,"
Use the network port:	"<your TCP port>,"
<u>Scheduled Calling</u>	
Enabled/Disabled:	"SCHEDULE ENABLED,"
Call at times:	"08:00 AM - 10:00 PM, each day"
Repeat interval of:	"60, minutes"
Days of week:	"Mon, Tue, Wed, Thu, Fri, Sat, Sun,"
Tasks:	"Replication,"
Route at once if:	"6, mail messages pending"
Routing cost:	"1,"
Replicate databases of priority:	"Low & Medium & High,"

Your Notes server needs to be in the same Notes domain as the Notes server you want to access. If it is not, your Notes server needs a certificate in common with the other Notes server. For more information on Notes certificates, see the Lotus Notes Administrator's Guide.

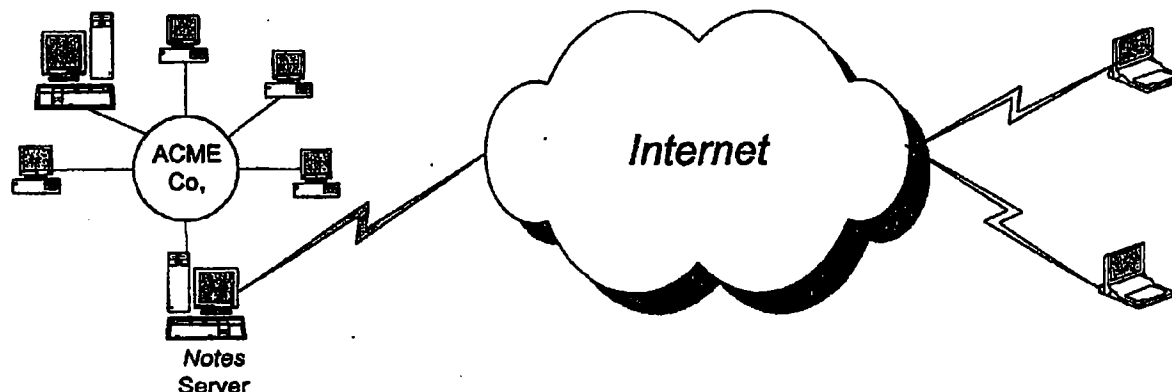
3.6 What happens when I can't access the Notes server?

The most common problem you can encounter when trying to access the Notes server is incorrect name resolution between the two Notes servers. To fix this problem, verify that your Domain Name System (DNS) can resolve the name to the IP address by checking that the IP address is entered in the hosts file. If you do not have a DNS, you need to add the entry to your local hosts file. The local hosts file is a file containing a mapping of host names and IP addresses. The hosts file is usually located in the same directory as the protocol software. It has a format similar to:

IP Address	Domain Name	alias	comment
198.3.12.245	salt.usa.com	salt	#Salt server
198.3.12.678	pepper.usa .com	pepper	#Pepper server

4.0 HOW CAN I USE A NOTES CLIENT TO ACCESS A NOTES SERVER ON THE INTERNET?

After you have set up your Internet connection, you can configure your Notes client software to access a Notes server on the Internet. You can use any of the Version 3.0 and higher Notes clients. Accessing Notes servers over the Internet is as easy as connecting to Notes servers on your local LAN.



Setting up Notes clients to connect over the Internet to Notes servers requires these basic steps:

1. Establish either a direct or dial-up Internet connection
2. Find out the IP address of the Notes server you want to access
3. Set up a TCP/IP network port within Notes
4. Access the Notes server

4.1 What kind of an Internet connection can I use?

You can use either a direct or dial-up Internet connection to access the Notes server over the Internet. For a direct connection, you need to connect your Local Area Network (LAN) through a router to a leased line to an Internet Service Provider in addition to using TCP/IP. For a dial-up connection, you need to use a high-speed modem and either a Serial Line Internet Protocol (SLIP) or Point-to-Point (PPP) communications protocol to give you the equivalent LAN TCP/IP functionality. These are the acceptable SLIP/PPP protocol stacks you can use with Notes:

- * IBM TCP provides SLIP (for OS/2)
- * LAN Workplace for Windows 4.2 (for Windows 16)
- * FTP Software (for DOS, Windows 16, and OS/2)
- * NetManage Chameleon (Windows 16 and Windows 32)
- * Trumpet WinSock shareware (for Windows 16)

To set up SLIP/PPP on your Notes server, follow the instructions provided with the SLIP/PPP protocol stack that you choose.

4.2 What do I need to know about the Notes server that I want to access?

Before you can access a Notes server over the Internet, you need to determine the IP address and domain name of that Notes server. You should be able to obtain this information by asking the Administrator of that Notes server. In addition, make sure that the hosts file can resolve the name to the IP address. For more information about the hosts file, see Section 3.6. With this information in hand, you can now work from within your Notes client to configure your connection.

4.3 How do I get my Notes client to run TCP/IP?

First, install TCP/IP on the Notes client. For specific information on which protocol stack you can use with the Notes clients, refer to Chapter 5: Running Lotus Notes on TCP/IP in the Lotus Notes 3.1 Network Driver Documentation.

Then, set up the TCP/IP network port. To configure the TCP/IP port, start Notes and follow these steps:

1. From the Tools menu, choose **Setup-Ports**.
The Port Setup dialog box appears.
2. Click the **Add Port** button.
The Add Port dialog box appears.
3. In the **Port Name** field, enter TCP.
4. In the **Driver** field, enter TCP.
5. In the **Unit Number** field, enter 0 if you only have one network card or one network protocol. If you have multiple network cards and protocols, this number would be higher.
6. In the **Buffer Size** field, enter 2000 if it is not already there and click OK.

Add Port

Port Name:

Driver:

Unit Number:

Buffer Size:

7. If you want to specify a secondary home server, click once on the TCP port to select it and then click the **Additional Setup** button.

The TCP/IP Port Setup dialog box appears.

8. In the **Notes Server Name** field, enter the name of the secondary Notes server.
9. In the **TCP/IP Host Name or Address** field, enter the IP address of the Notes server and click **OK**.

TCP/IP Port Setup

Secondary Notes Name Server, used when Home Server cannot be found:

Notes Server Name
(ex: Sales or Sales/Widgets/Acme/US)

TCP/IP Host Name or Address
(ex: sales.acme.com or 192.222.94.24)

10. Click the TCP port to select it and click the **Enable Port** checkbox. **Note:** Make sure that an asterisk appears beside the TCP port to show that it has been enabled. If you do not see an asterisk, you may need to reboot your Notes client.

4.4 How do I access the Notes server from the Notes client?

After you set up your network port for TCP/IP, compose a Connection document in the System's Local Name and Address book specifying the TCP/IP port on the Notes client and the times you want to schedule the replication. After your network port has been set up and you have created a Connection document, you can access the Notes server to open databases or replicate. (If you are using a SLIP/PPP connection, make sure your connection is started). To open a database on the Notes server, simply choose **File-Open Database** and type in the name of the Notes server. After a short time, you will see a list of databases just as you would if you were looking at the database list on one of your own Notes servers. If you want to replicate now instead of waiting for your scheduled connection to occur (specified in your Connection document), choose **Tools-Replicate**.

4.5 What happens if I can't connect?

These are some common problems you might encounter when trying to connect you Notes client to a Notes server.

Problem 1: If you receive an error message from Notes about security, such as "You are not certified to access the remote server," your TCP/IP setup is working correctly, but you do not have proper authorization to connect to that Notes server. To solve this problem, contact the Notes System Administrator to obtain the proper authorization.

Problem 2: Messages such as "TCP/IP host unknown" or "Remote system not responding" usually mean there is a problem with the TCP/IP setup. If you were able to PING the remote host successfully only with the IP address and not with the domain name, you need to add an entry into your hosts file. For more information on the hosts file, see Section 3.6.

Problem 3: You may be blocked by a firewall server. To test this, try to PING the Notes server to see if you can access it. If you are able to PING, but still cannot access the Notes server, try using telnet to connect to the Notes server on port 1352 (see your telnet documentation for details on how to do this). If you cannot connect with telnet, the firewall server may be blocking higher TCP port numbers and you will have to contact the remote site administrator to resolve the problem.

5.0 HOW CAN I SEND E-MAIL TO PEOPLE ON THE INTERNET FROM NOTES?

Internet e-mail is the process of sending an electronic message through the Internet or through gateways and other networks. Internet e-mail is the most popular application on the Internet. Simple Mail Transfer Protocol (SMTP) is the protocol used to transfer e-mail between computers on the Internet. You need to be running or have access to an SMTP Gateway in order send and receive e-mail between Notes and the Internet.

You have two options to provide your Notes users with the ability to send and receive Internet e-mail: you can install an SMTP Gateway locally in your Notes environment or you can use an SMTP Gateway remotely through a public Notes Information Service.

Installing and configuring a local SMTP Gateway can be expensive and complicated. Before you begin, you will need a dedicated line to the Internet, the Lotus Notes SMTP Gateway, a Notes server computer, a TCP/IP stack, and an administrator who is familiar with all the different components. If you do not meet all these requirements, you can access an SMTP Gateway remotely through one of these public Notes Information Services: CompuServe or WorldCom. Both of these public Notes Information Services provide most of the necessary hardware and software for your Notes users to send and receive Internet e-mail. All you need at your site is Notes and a modem.

5.1 What SMTP Gateways are available?

If you decide to set up a local SMTP Gateway, you have several options depending on your individual needs.

5.1.1 Lotus SMTP Gateway

Lotus provides an SMTP Gateway that allows Notes mail users to communicate with Internet mail users. Because Notes and SMTP messages have different formats, messages sent from one system to the other must be converted to a format that can be read in the target mail system.

The SMTP Gateway software runs on a Notes Release 3 Server for OS/2. A Notes server with the SMTP

Gateway software installed can handle SMTP mail for multiple Notes servers, including Notes servers on remote LANs. However, if you have a large, geographically distributed Notes system, it is more efficient to install the SMTP Gateway software on more than one server.

For specific steps on how to install and configure the SMTP Gateway, read the Lotus Notes Mail Gateway for SMTP (OS/2) Release 1.0 online book.

Version: 1.1
Price: \$2500
Contact: 800-343-5414

5.1.1.1 What happens to a Notes document after being sent through the Lotus Notes SMTP Gateway?

Briefly, the rich text document is converted into plain text and the formatting information is appended as a MIME attachment (and converted to a text representation using either BASE64 or uuencode, depending on the gateway configuration). MIME stands for Multipurpose Internet Mail Extensions and is an evolving standard for the format of a multi-part message with both text and binary objects using existing text-only SMTP mail servers. Any original attachments are appended as MIME attachments as well (again, encoded as text using BASE64 or uuencode).

This appears to the recipient as follows:

- * If you are another Notes user, behind another Lotus SMTP Gateway using the same encoding technique, it will appear exactly like the original Notes document. The setting of the gateway configuration form field "Attach Notes Body" determines whether the plain text or rich text (if present) version of a document will comprise the Notes message body.
- * If you are using a standard UNIX mail application, you will see the plain text of the e-mail followed with the text representation of the encoded rich text and attachments. If the originating gateway used the uuencode technique, you can manually convert (cut and paste to another file) the binary attachments using the uudecode program and make use of them.
- * If you are using a MIME-capable mail application, it should select the richest version of the document. That is, if a rich text version of a message body is present, the MIME mail application will display that version instead of the plain text version. Any original attachments are rendered as attachments. If the originating Lotus SMTP Gateway is using the uuencode translation technique, the attachments may not be converted or may be rendered as plain text. This is because uuencode, although a popular encoding technique, is not a MIME-standard Content Transfer Encoding type, and there are many variations in how this encoding is labeled.

5.1.1.2 What happens to a MIME-encoded e-mail sent through the Lotus SMTP Gateway?

The message is rendered as plain text within the Notes body field. MIME multi-part objects, both text and binary, are converted to attachments within the message. Due to limitations in the current gateway, nested multi-part objects are flattened and converted as a separate attachment.

5.1.2 SoftSwitch Gateways

SoftSwitch provides two SMTP Gateway solutions for Notes users who want to exchange e-mail with foreign mail users: Lotus Messaging Switch and SoftSwitch Central.

Lotus Messaging Switch is a UNIX-based backbone switch. You can use Lotus Messaging Switch along with the SoftSwitch SMTP Access Unit to allow SMTP connectivity to the Internet and to interface with UNIX sendmail.

SoftSwitch Central is an IBM host-based enterprise mail backbone switch. You can network SoftSwitch Central with any other SoftSwitch backbone products to form an electronic mail network backbone. To provide access to the Internet, you can use SoftSwitch Central in conjunction with the SoftSwitch SMTP Gateway.

The SoftSwitch line of products are well-suited for companies that have complex, heterogeneous environments with multiple e-mail systems with which to contend. For more information on SoftSwitch products, contact them at (215)640-9600.

5.1.3 cc:Mail Gateways

If you have cc:Mail users, you can install an SMTP Gateway for cc:Mail (available from Lotus) and then use a cc:Mail to Notes Gateway (available from both Lotus and third-party vendors). This solution allows Notes users to send e-mail through cc:Mail to the Internet.

5.2 Which Public Notes Information Service provides Notes-to-Internet SMTP Gateways?

If you decide to use a Public Notes Information Service to access an SMTP Gateway, these two companies provide the support you will need: CompuServe and WorldCom. Both companies provide basic e-mail connectivity to allow you to send and receive Internet e-mail through a Lotus Notes connection to one of these services.

5.2.1 CompuServe

The CompuServe Notes Information Service is a global Information hub utilizing Lotus Notes software. With it you can support your workgroups with worldwide e-mail, news, financial and public information, private services, CompuServe's extensive file libraries, and Internet services. Users can communicate and share information in over 175 countries, with dial-up access through local numbers in over 400 cities. Access is through CompuServe's own international network.

CompuServe has been a provider of Internet services for years offering Internet e-mail, mailing lists, and newsgroups to its 2.5 million users. With the CompuServe Notes Information Service, CompuServe is now providing all these Internet services to users of Lotus Notes.

Internet access through CompuServe enables you to:

- * send and receive Internet e-mail to any Internet user
- * access thousands of Internet mailing lists
- * read and contribute to any USENET newsgroup

For more information on the CompuServe Notes Information Service, contact them at 1-800-440-9804 or 614-524-0220 to receive a free service sign-up kit. CompuServe Information Service users can download a kit for free and find out more about the service with GO NOTES.

5.2.2 WorldCom

WorldCom is a public Lotus Notes network from Wolf Communications Company. In addition to providing extensive news services and publications, WorldCom connects Lotus Notes users to the Internet and to more than 100 other e-mail systems. Through WorldCom, you can access many Internet services, including e-mail, USENET newsgroups, the World Wide Web, FTP, SEC documents, and more than 5900 mailing lists. WorldCom also provides these additional services to support your Internet e-mail needs:

- * Domain Name Registration (DNR) allows you to select a domain on the Internet for your company. For example, your address would be simplified from

jane_smith@acme@notes.worldcom.com, through DNR, to jane_smith@acme.com.

- * Aliases allow you to specify a name for your Internet e-mail address. For example, you could shorten your e-mail address from jane_smith@acme.com to jsmith@acme.com.
- * A signature file, or ".sig," is a standard post script that is appended to your outgoing Internet e-mail. Internet users commonly use signature files to add company information, phone numbers, or a favorite quote to the bottom of an e-mail message.
- * You can exchange binary file attachments with Internet users automatically through Multipurpose Internet Mail Extensions (MIME), an Internet standard. Inbound Internet MIME attachments are converted to Notes file attachments, and a similar translation is performed for outbound messages.

For more information on WorldCom, call 800-774-2220 or 713-850-8522. You can also send e-mail to info@worldcom.com

6.0 HOW CAN I USE NOTES MAIL TO COPY FILES THAT RESIDE ON AN FTP SITE?

Many organizations do not have a direct Internet connection or do not allow direct FTP (File Transfer Protocol) access, but do have a SMTP mail gateway for their Notes users. If this is your situation, and you want to be able to retrieve files from FTP servers on the Internet, these are some examples of how you can do it.

6.1 Using an Auto-responder

The first example is to send an e-mail message to an auto-responder program designed to retrieve files from a site-specific database. These auto-responders programs are known as listservs or infobots. Some types of listservs are: the Internic's RFC server, info servers used by commercial organizations, document servers (such as infodroid@wired.com for back issues of Wired magazine) and mailing list archive servers (such as LNOTES-L).

Internet-Drafts and other IETF material are available by mail server from ds.internic.net. To retrieve a file, e-mail a request to mailserv@ds.internic.net (or your Notes <> SMTP gateway equivalent) with a subject of anything you want. In the body, put one or more commands of the form:

```
FILE /ietf/tao.txt
PATH jdoe@somedomain.edu
```

where PATH lists the e-mail address where the response should be sent. This will return an e-mail message with the document titled The Tao of IETF to jdoe@somedomain.edu.

6.2 Using a Mail Server

The second example is to send an e-mail message to a mail server, such as the UNC or DEC mail servers, to request files from any site. To get the ftpmail help document for commands on help on using ftpmail, send e-mail to ftpmail@sunsite.unc.edu or ftpmail@decwrl.dec.com with help in the body of the message.

The format used for sending a request for the ftpmail servers looks like this:

```
open <site> <username> <password>
cd <directory>
```

```

dir          # To obtain a directory listing (optional)
get <file>   # To retrieve a file
quit

```

If you want to send a request for a document that contains a list of FTP sites, you would send an e-mail message that looks like this:

```

open rtfm.mit.edu jdoe@somedomain.edu
cd /pub/usenet/news.answers/ftp-list
get faq
quit

```

where jdoe@somedomain.edu lists the e-mail address where the response should be sent. You would get a document sent by e-mail back to you containing the Anonymous FTP FAQ written by Perry Rovers (where much of the information in this section of the Internet Cookbook has been derived). Please note that if you use the DEC and UNC servers, they may take a while to return files due to their increasing popularity.

6.3 Notes-to-FTP Service Providers

WorldCom's NetFusion includes a Notes-to-FTP conversion service for companies that want to make files available to the Internet through FTP. Customers replicate a Notes database full of file attachments to WorldCom. All files in the database are detached into the WorldCom FTP server or the customer's customized Web server.

Contact: WorldCom, 713-650-6522 or info@worldcom.com
 Info site: <http://www.worldcom.com/>
 Price: \$200 setup, \$100/month + storage charges beyond 25 MB

7.0 HOW CAN I USE NOTES MAIL TO ACCESS AND COPY WORLD WIDE WEB PAGES?

There is an experimental mail server called Agora at CERN (the European High Energy Physics Lab, where Tim Berners-Lee developed the WWW) that allows you to retrieve Web pages using e-mail. To retrieve the instructions to use Agora send an e-mail message to listserv@info.cern.ch, with whatever subject you like, and add this to the body of the message:

```
SEND http://info.cern.ch/hypertext/WWW/MailRobot/send.html
```

You may also want to request these documents on the Web project and the WWW FAQ:

```

SEND http://info.cern.ch/hypertext/WWW/TheProject.html
SEND http://sunsite.unc.edu/boutall/faq/www\_faq.html

```

In addition, WorldCom provides access to the Web through their gateway that retrieves Web documents and converts the hyperlinks to Notes buttons, making it possible for you to explore the Web without leaving the familiar Notes interface.

8.0 WHAT ARE INTERNET MAILING LISTS AND HOW CAN I ACCESS THEM THROUGH NOTES?

An Internet mailing list is a collection of Internet addresses of people who are interested in a particular topic. You subscribe to these mailing lists and then whenever someone sends an e-mail message to the mailing list, that message is resent to all the addresses on the list. Internet mailing lists are similar to

groups in your Notes Name and Address Book that you use to send e-mail to more than one person at a time.

If there are several people at your company interested in subscribing to Internet mailing lists, you can create a mail-in Notes database to collect and store all the e-mail messages sent from the mailing list. This way, your company only gets one copy of the e-mail message instead of many. Those interested in reading the messages can access them from the Notes mail-in database.

In order to consolidate some of these mail messages into one central database which everyone can access, you create a mail-in database for messages from these mailing lists and you make sure the mail-in database address is on the mailing list as opposed to everyone's address at your company.

8.1 How do I set up a mail-in database?

A mail-in database is a Notes database of any design (typically, a discussion or mail design) with a Notes e-mail address to allow the Notes mail router to send e-mail messages to it. An excellent way to make use of a mail-in database is to use it as a repository for Internet e-mail for Internet mailing lists. Mail-in databases are widely used in routing/workflow applications.

To set up a mail-in database:

1. First, create the mail-in database by choosing File-New Database. You can use any design for the database, but be sure that the default form supports the type of information that it will contain. Use the Notes Mail template if you want the database to have a mail format. (For example, you would use a Notes Mail template to create the repository for Internet e-mail for Internet mailing lists.)
2. Open the Notes Name and Address Book for your domain and compose a Mail-In Database document.
3. In the Mail-in Name field, enter the name you want to use as the address of the database. This is the actual Internet name that people will use when they send e-mail to the database. For example, if you enter LNOTES as the Mail-in Name, make sure that the name LNOTES@corp.com is on the Internet mailing list for Lotus Notes Information. (Send an e-mail message to interest-groups-request@nisc.sri.com and NEW-LIST@VM1.NODAK.EDU to announce your list to the Internet community.) Also, others in the company can send e-mail to this database by sending messages to LNOTES.
4. In the Database Server and Database Server's Domain fields, enter the name and domain name of the Notes server where you just created the mail-in database.
5. In the Database File field, enter the filename of the mail-in database. Save this document.

After this Mail-In Database document replicates around your domain, users will be able to send e-mail to the address you specified and it will show up in your mail-in database.

For a complete listing of all the Internet mailing lists, copy it from one of these locations:

FTP: rtfm.mit.edu/pub/usenet/news.answers/mail/mailling-lists
USENET: news.announce.newusers or news.answers

8.2 How can I filter out irrelevant material from incoming mailing lists?

You can filter out unwanted material from an incoming mailing list by creating either a paste/mail or a

query macro. The paste/mail macro searches the text fields of any incoming messages (the To, From, and Subject fields). (Note that you are limited to one paste/mail macro for each database.) The query macro performs a full-text search on any messages already in your database. Full-text searching is helpful for large, discussion-type databases with many responses. These macros come in handy if you want to categorize and delete messages based on specified criteria in the body of the e-mail message. For example, if you do not want any e-mail messages that contain FAQs, you can create a macro that searches all message Subjects for the word FAQ and then deletes those messages.

9.0 WHAT IS THE DIFFERENCE BETWEEN A USENET NEWSGROUP AND A NOTES DISCUSSION DATABASE?

There is not much of a difference between a USENET newsgroup and a Notes discussion database. Both are used to collect and share information. Both provide a discussion mechanism similar to a BBS, but allow for controlled replication to many sites. Both provide a way for navigating discussion threads, responding to specific issues, and organizing documents around general topics.

USENET newsgroups are public, widely distributed, and mostly text-based. Notes discussions are typically private, have specific security controls (for access, replication and editing), support a consistent set of rich text, attachment and multimedia features, and usually are organized around one database per topic.

9.1 How can I use Notes to read and organize USENET news?

You access USENET news in Notes through a USENET-to-Notes Gateway. You can either subscribe to a Notes Information Provider that provides USENET news directly in Notes or deploy and manage your own on site gateway. Like the general question about how to connect your organization to the Internet, your choice depends on your capabilities and resources.

9.2 Notes-to-USENET Gateways

Notes-to-USENET Gateways allow Notes users to participate in USENET discussions almost transparently without additional training or support. Like other newsreader programs, Notes users can subscribe to newsgroups, read articles, post articles and send e-mail replies (provided your site supports Internet e-mail) directly from the Notes environment. Experienced Notes users appreciate the power of Notes to organize, filter, search and redistribute USENET news which often suffers from too much irrelevant content.

The Notes-to-USENET Gateways are typically Notes server add-in applications that manage the connection to UNIX News Servers and do the translation between the Notes and USENET data formats. Unless you already have a News Server running at your location, your Internet Service Provider can provide the news feed at a moderate additional cost from their servers.

9.2.1 Corporate Software Express:News Link Gateway

Corporate Software published Express:News Link in early 1994 and has been upgrading it since then. It supports OS/2 Notes servers and exchanges news with a local news server's spool file.

Notes server supported:	OS/2
Protocol support:	None (shares spool file with NFS)
News Servers tested with:	INN and C News
Special requirements:	Local UNIX News Server
Contact:	David Gonzales at express@csnf.com or 800-488-7543 (x.345)
Version:	1.40

Price: \$2,495 (up to 250 users)
\$5,000 (250 to 1000 users)

9.2.2 JSoft Notes-to-USENET Gateway

JSoft makes two versions of their gateway; a server version for OS/2 Notes servers that utilizes a server add-in application to directly translate USENET articles using the NNTP protocol and a Windows based client version that translates a UNIX news spoolfile into a Notes database for off line reading and posting. Source code licenses are available.

Notes server supported: OS/2
Protocol support: NNTP
MIME support? no
News Servers tested with: INN and CNews
Special requirements: none
Contact: Joseph Jesson at jsoft@mcs.com or 708-356-6817
Info site: <http://www.msc.com/~jsoft/home.html>
Version: 1.4
Prices: \$2,400 (USENET NNTP-to-Notes OS Version)
\$320 (USENET UNIX Shell Account to Windows)

9.2.3 Lotus InterNotes News

Lotus is offering a gateway (now available under an open beta program) that runs on OS/2 and Windows NT-based Notes servers. It utilizes a central configuration database and supports multiple gateways, News Servers and News databases. Expected to ship in Q2 1995.

Notes server supported: OS/2 or Windows NT
Protocol support: NNTP
News Servers tested with: INN and CNews
Special requirements: Uses pull replication from Internet Service Provider
Contact: InterNotes@iris.com (e-mail only during the beta program)
Info site: <http://www.iris.com/>
Version: Beta 4 (04/05/95)
Price: \$2500 per Notes server; unlimited users

9.3 Notes-to-USENET Service Providers

These Notes based Information Providers sell news feeds in Notes format. You would typically set up a replication schedule with their News Servers to transfer news databases using either dial-up or Internet connections. This is a more expensive solution for large users, but avoids the management and capital expenses of running your own gateway. Some services package news from other sources to create a custom information product suited to your needs.

9.3.1 CompuServe

Cost: \$18.00 per hour with no setup or monthly fees
Number of newsgroups: unlimited
Type of replication: Dial-up, X.25, Frame-Relay (ISDN and Internet planned or in testing)
Allow posting? Yes
Contact: 800-440-9804 or 617-524-0220
Info site: <http://www.compuserve.com/>

9.3.2 Individual, Inc.

Cost:	\$??
Number of newsgroups:	??
Type of replication:	??
Allow posting?	??
Contact:	617-354-2230
Info site:	??

9.3.3 WorldCom

Cost:	\$50.00 per month per company plus replication charges
Number of newsgroups:	unlimited
Type of replication:	Dial-up or Internet
Allow posting?	Yes
Contact:	713-650-6522 or info@worldcom.com
Info site	http://www.worldcom.com or ftp.worldcom.com
BBS:	713-659-7119

10.0 WHAT IS THE DIFFERENCE BETWEEN THE WORLD WIDE WEB AND NOTES?

Notes is a rich wide-area application development and deployment environment that has similarities to the World Wide Web and also some fundamental differences. Both systems use the client/server model and distribute the processing between the two. Both have a document centric user interface that supports rich data types (including rich text, sound, graphics and video), hypertext links, and fielded forms.

The World Wide Web was designed for document distribution and linking TCP-based resources across the global Internet. Its protocols were designed for simplicity, efficiency and open access. Notes is based on a replicated object database architecture with integrated e-mail, which makes it ideally suited for applications that support common business processes such as workflow.

The Notes client supports a more full-featured user interface model than most Web browsers. For instance, the Notes client program is a document editor as well as a browser. Notes also supports sophisticated forms validation and processing on the client workstation. Through Notes/FX external programs such as spreadsheets can bi-directionally exchange information with server applications. On the other hand, most Web browsers are very simple and intuitive to use and allow the user to navigate and access documents easily.

The Notes security model has gone through many releases and is highly developed. The security for Web servers and browsers is just starting to be developed and implemented. Notes uses public/private key RSA cryptography to support features such as client and server authentication, encryption on-the-wire, digital signatures, automated key distribution, and full interoperability across national borders.

10.1 Can I publish Notes documents as HTML documents?

Yes, you will soon be able to use Notes as an authoring and document management system for a web site. Lotus and several other vendors have announced products that automatically translate Notes databases into collections of HTML documents. These products will allow standard Web browsers, such as NCSA Mosaic or Netscape, to read documents stored in a Notes database.

10.2 Who provides Notes-to-HTML converters?

Several companies have announced products that are under development. This is a brief list based on published information. Contact the companies directly for availability and more information.

10.2.1 InterNotes Web Publisher, Lotus Development Corporation

This Notes server add-in automatically converts multiple databases into HTML. Graphics, doclinks, tables and attached files are preserved during translation. Notes Views are translated into Web pages for browsing.

Contact: Lotus Development Corporation, Pre-Sales Information, 800-828-7086
Info site: <http://www.lotus.com/>
Platform: Windows NT
Price: \$7500 per server

10.2.2 NetFusion, WorldCom

WorldCom's NetFusion services include Web conversion based on the Walter Shelby Group's TILE. Users replicate Notes databases to WorldCom, which will convert them to HTML and distribute them to the Internet through the WorldCom server. WorldCom will also set up separate Web servers for companies needing a higher degree of customization for an additional charge. These services will be available in late February or early March 1995.

Contact: WorldCom, 713-650-6522 or info@worldcom.com
Info site: <http://www.worldcom.com/>
Platform: Lotus Notes
Price: \$2000 setup, \$200 per month plus storage charges beyond 25 MB

10.2.3 TILE, Walter Shelby Group

TILE is a software program that converts Notes databases into Internet accessible Web documents, Gopher files, and FTP directories. Views, forms, fonts, graphics and hypertext links are preserved.

Contact: Walter Shelby Group, 301-718-7840 or info@shelby.com
Info site: <http://www.shelby.com/pub/tile/home.html>
Platform: Windows 3.1, Windows NT, and OS/2
Price: \$2995 per server

10.2.4 WebGate, by Chris Davey

WebGate provides an interactive way to extract information from a Lotus Notes database into the Web. A CGI program on the HTTP server communicates by TCP/IP to a Notes API program on the Notes server.

Contact: Chris.Davey@login.leunet.ie
Info site: <ftp.worldcom.com:/inotes-1/internet/webgt01B.zip>
Platforms: SunOS 4.1.3 or Ultrix 4.2
Price: Free for non-commercial use; price for other uses on request

10.2.5 Web Link, Corporate Software, Inc.

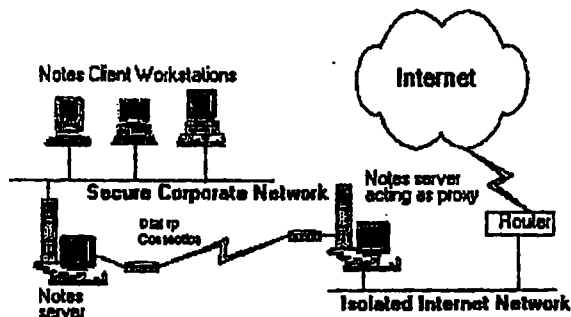
Web Link is currently sold as a CSI service offering. CSI can also create customized source code modifications to meet individual requirements when converting Notes databases into Web databases.

Contact: Corporate Software Inc., 800-488-7543
Info site: David.Gonzales@csol.com or 800-488-7543 (x.345)
Platform: Windows NT
Price: Varies with customer requirements

11.0 HOW CAN I USE NOTES THROUGH MY CORPORATE FIREWALL SERVER?

Notes, when running over TCP/IP, uses TCP socket number 1352. Your security administrator can establish filters to permit traffic destined for your specific Notes servers on this socket, allowing a secure way for your Notes traffic to pass through the firewall server.

Another option (for the more technically inclined firewall administrator) is to set up a Notes proxy within the firewall itself. TIS, Inc. (Trusted Information Systems) has a firewall toolkit freely available to the Internet that is widely used and trusted because the source code is provided and has undergone extensive peer review. Included with the firewall toolkit is a generic "plugboard" proxy that acts as a transparent forwarder for traffic on a particular network port that can be configured to forward Notes traffic. This solution provides good security without additional hardware, but requires expertise and a UNIX-based firewall server. The TIS firewall toolkit source is available on the Internet at <ftp.tis.com:/pub/firewalls/toolkit>.



11.1 Can I use Notes as a Firewall Server?

If you cannot place your Notes servers behind a firewall server, you can place one of the Notes servers directly on the Internet and use it as a firewall server itself. You can use one of the following methods to make a Notes server into a firewall server.

First, the Notes server can be configured to prevent unauthorized traffic from entering or leaving your LAN. This design involves putting two network adapters on the Notes server, one connected to the Internet (and configured for TCP/IP) and the other to the organization LAN (configured for your local protocol, such as NetBIOS or SPX). You must configure the underlying operating system correctly to respond only to Notes traffic; that is, you must turn off TCP/IP routing between adapters, remove any TCP utilities (such as FTP, Sendmail, NFS, etc.) and turn on all auditing and alarm utilities to track intrusion. In addition, you should configure the Notes server with tight access controls for both the server access controls and the individual access controls. While this first approach is used by many people, we do not recommend it because it relies on how well the underlying operating system is configured, tested, and maintained.

Second, the Notes server can be placed on an isolated LAN with Internet connectivity. This Notes server then connects with the organization's Notes servers using a modem (or a null modem cable) to replicate Notes databases. The modem connection uses the X.PC protocol as a transport, is intermittent, and uses Notes authentication (and encryption, if enabled) to ensure security. This approach is simple, highly effective and easy to implement, but requires extra hardware. We recommend this approach if you have the required hardware.

12.0 RESOURCES

This section provides pointers on where to get information about Lotus Notes.

12.1 Where can I look on the Internet to find out more about Notes?

There are many places where you can go on the Internet to learn more about Lotus Notes. After you get connected to the Internet, start browsing at the following Internet Notes locations.

12.1.1 World Wide Web sites

Visit the following Web sites for more Notes-related information.

Lotus Development Corporation: <http://www.lotus.com>

Iris Associates, Inc.: <http://www.iris.com>

LNOTES-L Web site: <http://www.disaster.com/lnotesl.html>

Lotus Notes FAQ Web site: <http://www.turnpike.net/metro/kyee/NotesFAQ.html>

The Delta Page of Lotus Notes-related resources: <http://www-1wi.unisg.ch:80/delta/links/notes.html>

WorldCom: <http://www.worldcom.com/>

12.1.2 Internet Mailing lists

LNOTES-L is an Internet mailing list that contains postings by the general Notes user community. It is a mailing list created for the purpose of exchanging information among Notes users. LNOTES-L has over 2000 members, which puts you in contact with many other Notes users and provides you with access to many different Notes discussions.

To subscribe yourself to LNOTES-L, send a message to lnotes-l-request@wums.wustl.edu. In the body of the letter, enter **SUBSCRIBE LNOTES-L ADDRESS**. Replace **ADDRESS** with your Internet mailing address (yourname@yourdomain). You will be automatically added to the list.

To subscribe an address other than the one you are sending from, send a message to labatt@disaster.com. In the body of the letter, enter **SUBSCRIBE LNOTES-L ADDRESS**. Replace **ADDRESS** with the address to send messages to.

12.1.3 LNOTES-L Mailing List Archive

You can access an archive of LNOTES-L by sending an e-mail request to notearch@pp.com and using two commands in the body of your message: **reply** and **key**. The **reply** command specifies where the returned archive postings should be sent. The **key** command specifies which keywords to use to select the archive postings. You can only use one key command for each request. You cannot use leading spaces or tabs in either of these commands.

As an example, if you sent an e-mail message with these two commands:

```
reply yourname@yourdomain
key compaq calendar usenet
```

you would get a comprehensive e-mail message sent back to you with all the postings that have either **compaq**, **calendar**, or **usenet** in the Subject line.

As another example, if you sent an e-mail message with these two commands:

```
reply yourname@yourdomain
```

key compaq index

you would get a copy of the instructions about how to use the LNOTES-L archive itself.

For more information on the LNOTES-L archive, send e-mail to dick@gp.com.

12.1.4 USENET Newsgroups

The `comp.groupware` and `comp.groupware.lotus-notes.misc` newsgroups contain information and discussions about Notes. To access them, you need to use a USENET newsreader program. For information on using a newsreader program directly from Notes, see Section 9.0.

12.2 What books can help a Notes user or administrator get Internet savvy?

Books available from Lotus Development Corporation:

- Lotus Notes Administrator's Guide
- Notes Internals: Security online book (INTSEC.NSF)
- Lotus Notes Network Driver Documentation online book (NETDOC.NSF)

Books available from various Internet sites:

- Zen and the Art of the Internet: A Beginner's Guide to the Internet by Brendan Kehoe
(ftp: [emory1.cc.emory.edu in /computing/reference/networking/Internet](ftp://emory1.cc.emory.edu/in/computing/reference/networking/Internet))
- EFF's Guide to the Internet by The Electronic Frontier Foundation
(ftp: [ftp.eff.org](ftp://ftp.eff.org))

Request For Comments (RFCs) available from various Internet sites:

- Internet RFC 1118 The Hitchhikers Guide to the Internet
- Internet RFC 1462 What is the Internet
- Internet RFC 1359 Connecting to the Internet - What Connecting Institutions Should Anticipate

Note: You can obtain these RFCs from many different Internet sites, including the FTP server at [nic.ddn.mil](ftp://nic.ddn.mil). If you use the FTP server [nic.ddn.mil](ftp://nic.ddn.mil), log in as anonymous using your e-mail address as the password and look for these books in the rfc directory.

Printed books available from bookstores:

- Firewalls and Internet Security: Repelling the Wily Hacker by William R. Cheswick and Steven M. Bellovin
- The Whole Internet User's Guide and Catalog by Ed Krol

Books available from International Business Machines Corporation:

- IBM TCP/IP for OS/2 Administrator's Guide

13.0 CREDITS

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